

**MASINDE MULIRO UNIVERSITY OF  
SCIENCE AND TECHNOLOGY**

**(MMUST)**

MAIN CAMPUS

**UNIVERSITY EXAMINATIONS**

**2021/2022 ACADEMIC YEAR**

**FIRST YEAR SECOND SEMESTER EXAMINATIONS**

**FOR THE CERTIFICATE**

**IN**

**INFORMATION TECHNOLOGY**

**COURSE CODE: ITC 014**

**COURSE TITLE: COMPUTER SYSTEM MAINTENANCE**

**DATE: 20/04/2022**

**TIME: 3:00 - 4:30PM**

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**INSTRUCTIONS TO CANDIDATES**

Attempt Question ONE (compulsory) and any other TWO questions

TIME: 1 HOUR 30 MINUTES

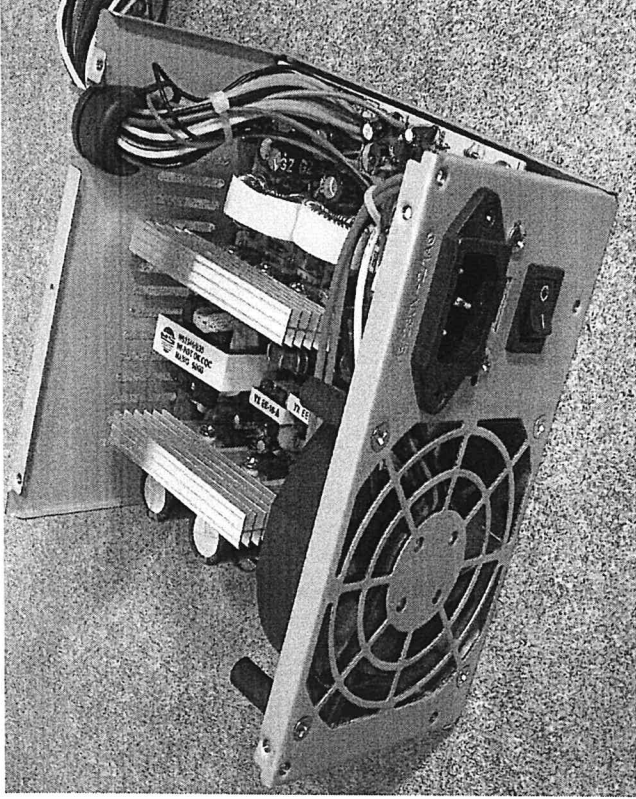
MMUST observes ZERO tolerance to examination cheating

### Question One (24 marks)

- a. Discuss the following maintenance issues and how they affect the performance of the computer
- i). Virus (2 marks)
  - ii). Dust (2 marks)
  - iii). Trojan (2 marks)
- b. Name any two computer ports and discuss their physical characteristics (4 marks)
- c. Name any four types of data backups available. (4 marks)
- d. State four functions of CMOS battery (4 marks)
- e. Explain the importance of software updates (2 marks)
- f. Describe the term **computer port** and explain physical characteristics of **D-shell** connector and **DIN** connector. (4 marks)

### Question Two (18 Marks)

- a. Routine practices carried out on a computer system are very important. Discuss the function of **power surge protector** (3 marks)
- b. BIOS is a type of firmware stored on a ROM chip. Discuss its duties during POST test in boot up process of a computer (5 marks)
- c. You have been given the following component of a computer system.
- i. Identify the components (1 mark)
  - ii. Explain its functions (4 marks)
  - iii. Explain how you can test to ascertain its functionality if your computer is not powering on (3 marks)



- d. By giving an example, explain the function of diagnostic software **(2 marks)**

### Question Three (18 Marks)

- a. When working on a computer, explain what you should do to prevent electrical shock **(3 marks)**
- b. Name any four types of data backups available. **(4 marks)**
- c. Clearly distinguish between SRAM and DRAM **(2 marks)**
- d. You have been given a laptop by a client who claims it cannot connect to the internet and he cannot fix the problem. In that room you have a strong wi-fi signal with USSD name **WITECH**, but you realize that the laptop cannot even detect any wi-fi signals. Discuss the possible causes of this problem and provide a possible solution. **(6 marks)**
- e. Explain any **three signs** that may suggest that your computer is infected with a virus **(3 marks)**

### Question Four (18 Marks)

- a. You have been given a computer which has a motherboard password. The owner forgot the password and has requested you to reset it. You discover that the only way to reset is to check the motherboard.
- i. Describe the two ways you can physically use to reset the password **(6 Marks)**

- ii. State the condition under which the above hard reset mechanisms can work. **(2 Marks)**
- b. You later decide to format the computer and reinstall a new windows 7 OS. You have been given a flash disk 8GB, and a bootable ISO image windows7.
  - i. Describe how you would copy the OS on flash drive to make it bootable **(4 marks)**
  - ii. Describe the steps you would follow to reinstall the operating system from the media above starting from the BIOS configuration **(6 Marks)**
- c. It is advisable that before you open inside the computer system you first need to unplug all the cables from the system unit, especially the power cables. Besides you need to press and hold the power button for 5 seconds. Explain why these precautions are important **(2 marks)**

### Question Five (18 Marks)

- a. Explain what is meant by CMOS chip. Explain why it is important and what happens when the battery low. **(4 marks)**
- b. Distinguish between software installation and software uninstallation **(2 marks)**
- c. Outline the functions of a Good Virus Protection Program. **(3 marks)**
- d. Power supply unit is one of the computer hardware devices studied under maintenance.
  - i. Define the term power supply unit **(2 marks)**
  - ii. Explain how you would troubleshoot a faulty power supply **(2 marks)**
- e. E-waste is considered a problem in all electronics including computers
  - i. Define the term e-waste **(2 marks)**
  - ii. State three ways in which a lab manager/technician can reduce e-waste **(3 marks)**